Web Images Groups News Froogle **more »**

domino points internet points and SLOC | Search | Advanced Search | Preferences

The "AND" operator is unnecessary -- we include all search terms by default. [details]

Web Results **1** - **10** of about **54** for **domino points internet points and SLOC**. (**0.63** seconds)

Estimating **Internet** Development Page 3
... adjustment factor I'll call M(B). M(A) defines the base efficiency of developing the function **points**, **SLOC**, **Domino Points**, **Internet Points** or whatever. ...
www.costxpert.com/resource_center/ articles/software_development/pg3.html - 14k - Cached - Similar pages

[PDF] Estimating Software Costs
File Format: PDF/Adobe Acrobat - View as HTML
... also other approaches to calculating equivalent **SLOC** from a higher-level input value. These other approaches include **Internet points**, **Domino points**, and class ...
www.costxpert.com/resource_center/ SDarticles/SDArticle1.pdf - Similar pages
[More results from www.costxpert.com]

[PDF] Software Estimation - Using COCOMO and COCOMO II
File Format: PDF/Adobe Acrobat
... Supported •• **SLOC SLOC** •• Function **Points** Function **Points** •• **Internet Points Internet Points** •• **Domino Points Domino Points** •• UML Use Case ...
www.saspin.org/SASPIN_Apr2001_COCOMO.pdf - Similar pages

[PDF] System Dynamic Modeling of Software Cost and Quality
File Format: PDF/Adobe Acrobat - View as HTML
... of size measurements include source lines of code (**SLOC**), function **points**, **internet points**, use-case **points**, class-method **points**, and Lotus **Domino points**. ...
www.stc-online.org/cd-rom/ cdrom2000/webpages/willroet/paper.pdf - Similar pages

JavaScript: I dont want to use Window.open, instead I want the ...
... Author: auswill **Points**: 50 Grade: A Date: 05/29/2004 12:09AM PDT, Is this ... var bV3 var popUpWin var iPartner = 31181 function eBaySearch() { var **sLoc sLoc** = "http ...
www.experts-exchange.com/Web/ Web_Languages/JavaScript/Q_21006538.html - 62k - Cached - Similar pages

Print Marriott Magazine Article
... has gone from fancy catered meals to **Domino's** Pizza and ... The new **SLOC** decided that though it would be ... the business and identify key leverage **points** in terms of ...
marriottschool.byu.edu/.../print.cfm?num=4& page=%2Fmarriottmag%2Fwinter02%2Ffeatures%2Fspfeature1.cfm - 29k - Cached - Similar pages

Galorath Consulting Services - Overview
... effort that yielded nearly 2,500 data **points**. ... key factors in estimating **Internet** development effort ... Object-Oriented Model of INtelligence Operations (**DOMINO**). ...
www.galorath.com/consult_history.shtm - 44k - Cached - Similar pages

Estimating Software Costs
... 2000), there are other approaches to calculating equivalent **SLOC** from a higher level input value. These include **Internet points**, **Domino points** and class-method ...
www.informatika.org/~bayu/articles/ 3/Estimating%20Software%20Costs.htm - 23k - Supplemental Result - Cached - Similar pages

[PDF] Estimating **Internet** Development
File Format: PDF/Adobe Acrobat - View as HTML
... adjustment factor I'll call M(B). M(A) defines the base efficiency of developing the function **points**, **SLOC**, **Domino Points**, **Internet Points** or whatever. ...
edbenson.ecs.fullerton.edu/unix546/webestimation.pdf - Supplemental Result -

Similar pages

Salt Lake chief: trying 'to save our bacon'

... **Domino's** pizza and Staples office supplies are two of his ... even tickets that get sold on the **Internet**," he said. ... a number of things that from my **point** of view ...
slam.canoe.ca/SlamOlympicScandalArchive/may22_salt.html - 15k -
Cached - Similar pages

Gooooooogle ▶

Result Page: 1 2 3 4 5 6 **Next**

domino points internet points and SL Search

Search within results | Language Tools | Search Tips | Dissatisfied? Help us improve

Google Home - Advertising Programs - Business Solutions - About Google

Web Images Groups News Froogle **more »**

domino points internet points and SLOC Search Advanced Search Preferences

The "AND" operator is unnecessary -- we include all search terms by default. [details]

Web Results **1** - **10** of about **54** for domino points internet points and SLOC. (**0.63** seconds)

Estimating **Internet** Development Page 3
... adjustment factor I'll call M(B). M(A) defines the base efficiency of developing the function **points**, **SLOC**, **Domino Points**, **Internet Points** or whatever. ...
www.costxpert.com/resource_center/ articles/software_development/pg3.html - 14k - Cached - Similar pages

[PDF] Estimating Software Costs
File Format: PDF/Adobe Acrobat - View as HTML
... also other approaches to calculating equivalent **SLOC** from a higher-level input value. These other approaches include **Internet points**, **Domino points**, and class ...
www.costxpert.com/resource_center/ SDarticles/SDArticle1.pdf - Similar pages
[More results from www.costxpert.com]

[PDF] Software Estimation - Using COCOMO and COCOMO II
File Format: PDF/Adobe Acrobat
... Supported •• **SLOC SLOC** •• Function **Points** Function **Points** •• **Internet Points Internet Points** •• **Domino Points Domino Points** •• UML Use Case ...
www.saspin.org/SASPIN_Apr2001_COCOMO.pdf - Similar pages

[PDF] System Dynamic Modeling of Software Cost and Quality
File Format: PDF/Adobe Acrobat - View as HTML
... of size measurements include source lines of code (**SLOC**), function **points**, **internet points**, use-case **points**, class-method **points**, and Lotus **Domino points**. ...
www.stc-online.org/cd-rom/ cdrom2000/webpages/willroet/paper.pdf - Similar pages

JavaScript: I dont want to use Window.open, instead I want the ...
... Author: auswill **Points**: 50 Grade: A Date: 05/29/2004 12:09AM PDT, Is this ... var bV3 var popUpWin var iPartner = 31181 function eBaySearch() { var **sLoc sLoc** = "http ...
www.experts-exchange.com/Web/ Web_Languages/JavaScript/Q_21006538.html - 62k - Cached - Similar pages

Print Marriott Magazine Article
... has gone from fancy catered meals to **Domino's** Pizza and ... The new **SLOC** decided that though it would be ... the business and identify key leverage **points** in terms of ...
marriottschool.byu.edu/.../print.cfm?num=4& page=%2Fmarriottmag%2Fwinter02%2Ffeatures%2Fspfeature1.cfm - 29k - Cached - Similar pages

Galorath Consulting Services - Overview
... effort that yielded nearly 2,500 data **points**. ... key factors in estimating **Internet** development effort ... Object-Oriented Model of INtelligence Operations (**DOMINO**). ...
www.galorath.com/consult_history.shtm - 44k - Cached - Similar pages

Estimating Software Costs
... 2000), there are other approaches to calculating equivalent **SLOC** from a higher level input value. These include **Internet points**, **Domino points** and class-method ...
www.informatika.org/~bayu/articles/ 3/Estimating%20Software%20Costs.htm - 23k - Supplemental Result - Cached - Similar pages

[PDF] Estimating **Internet** Development
File Format: PDF/Adobe Acrobat - View as HTML
... adjustment factor I'll call M(B). M(A) defines the base efficiency of developing the function **points**, **SLOC**, **Domino Points**, **Internet Points** or whatever. ...
edbenson.ecs.fullerton.edu/unix546/webestimation.pdf - Supplemental Result -

Similar pages

Salt Lake chief: trying 'to save our bacon'
... **Domino's** pizza and Staples office supplies are two of his ... even tickets that get sold on the **Internet**," he said. ... a number of things that from my **point** of view ...
slam.canoe.ca/SlamOlympicScandalArchive/may22_salt.html - 15k -
Cached - Similar pages

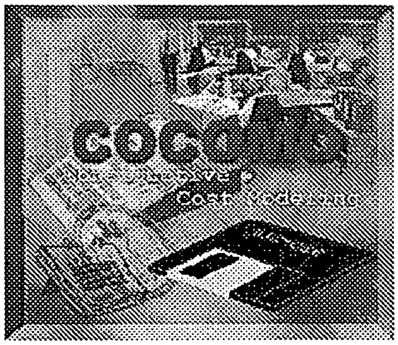
Gooooooogle ▶

Result Page: 1 2 3 4 5 6 **Next**

domino points internet points and SL Search

Search within results | Language Tools | Search Tips | Dissatisfied? Help us improve

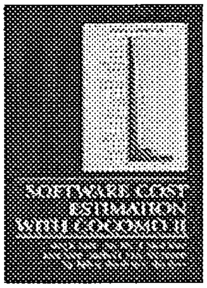
Google Home - Advertising Programs - Business Solutions - About Google

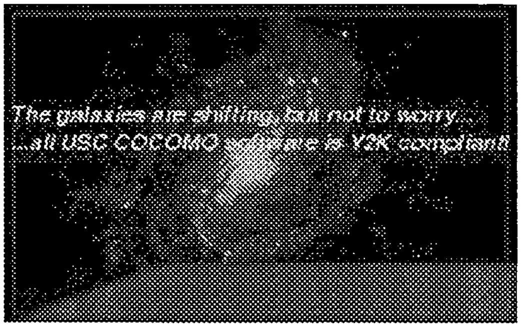


COCOMO

Last updated 9/23/2002

New COCOMO II book now available! Don't be left behind! Order yours today!




The galaxies are shifting, but not to worry...
...all USC COCOMO software is Y2K compliant!

Many of the documents available at this site require a PDF or Postcript file viewer:

Click To Download Viewers

Introduction

COCOMO II is a model that allows one to estimate the cost, effort, and schedule when planning a new software development activity. It consists of three submodels, each one offering increased fidelity the further along one is in the project planning and design process. Listed in increasing fidelity, these submodels are called the Applications Composition, Early Design, and Post-architecture models. Until recently, only the last and most detailed submodel, Post-architecture, had been implemented in a calibrated software tool. As such, unless otherwise explicitly indicated, all further references on these web pages to "COCOMO II" or "USC COCOMO II" can be assumed to be in regard to the Post-architecture model.

The implemented tool provides a range on its cost, effort, and schedule estimates, from best case to most likely to worst case outcomes. It also allows a planner to easily perform "what if" scenario exploration, by quickly demonstrating the effect adjusting requirements, resources, and staffing might have on predicted costs and schedules (e.g., for risk management or job bidding purposes).

The original COCOMO model was first published by Dr. Barry Boehm in 1981, and reflected the software development practices of the day. In the ensuing decade and a half, software development techniques changed dramatically. These changes included a move away from mainframe overnight batch processing to desktop-based real-time turnaround; a greatly increased emphasis on reusing existing software and building new systems using off-the-shelf software components; and spending as much effort to design and manage the software development process as was once spent creating the software product.

These changes and others began to make applying the original COCOMO model problematic. The solution to the problem was to reinvent the model for the 1990s. After several years and the combined efforts of USC-CSE, IRUS at UC Irvine, and the COCOMO II Project Affiliate Organizations, the result is COCOMO II, a revised cost estimation model reflecting the changes in professional software development practice that have come about since the 1970s. This new, improved COCOMO is now ready to assist professional software cost estimators for many years to come.

Note on Nomenclature:

The original model published in 1981 went by the simple name of COCOMO. This is an acronym derived from the first two letters of each word in the longer phrase *Constructive Cost Model*. The word "constructive" refers to the fact that the model helps an estimator better understand the complexities of the software job to be done, and by its openness permits the estimator to know exactly why the model gives the estimate it does. Not surprisingly, the new model (composed of all three submodels) was initially given the name COCOMO 2.0. However, after some confusion in how to designate subsequent releases of the software implementation of the new model, the name was permanently changed to COCOMO II. To further avoid confusion, the original COCOMO model was also then re-designated COCOMO 81. All references to COCOMO found in books and literature published before 1995 refer to what is now called COCOMO 81. Most references to COCOMO published from 1995 onward refer to what is now called COCOMO II.

(If in examining a reference you are still unsure as to which model is being discussed, there are a few obvious clues. If in the context of discussing COCOMO these terms are used: Basic, Intermediate, or Detailed for model names; Organic, Semidetached, or Embedded for "development mode," then the model being discussed is COCOMO 81. However, if the model names mentioned are Application Composition, Early Design, or Post-architecture; or if there is mention of "scale factors" Precedentedness, Development Flexibility, Architecture/Risk Resolution, Team Cohesion, or Process Maturity, then the model being discussed is COCOMO II.)

The software implementation of the model also follows a specific naming convention. The theoretical model is referred to as COCOMO II. The USC-CSE software implementation of the model is referred to as USC COCOMO II, to distinguish it from other academic or commercial implementations of the model. The complete designation of the first release of our implementation was USC COCOMO II.1997.0. There was a follow-up release called USC COCOMO II.1997.1. The next release of the tool is called USC COCOMO II.1998.0. The calendar year component of the designation (e.g., 1997, 1998) identifies the calibration. Within any given calendar year, only one official calibration of the model parameters will be released by USC. The current plan is to release a new calibration annually, as ever more historical projects get added to the calibration database, and as improved statistical techniques are applied to the calibration activity. However, while within any calendar year there will only be one calibration release, there may be one or more releases of the USC software using that calibration. The final component of the full designation identifies the specific software release. Thus USC COCOMO II.1997.0 and ~.1997.1 have the same parameter values, and cost estimates made by either implementation can be directly compared. But the ~1997.1 version incorporated changes in the software which made the tool easier to use over the ~1997.0 version. USC COCOMO II.1998.0 has a completely new calibration, and thus its output ***cannot*** be legitimately compared directly with estimates made by either of the 1997 releases of the tool.

COCOMO and Function Points

We would like to address two misconceptions about COCOMO, source lines ofcode (SLOC) and function points (FP):

Misconception 1. *COCOMO does not support the use offunction points.*Function-point versions of COCOMO have been available since the Before YouLeap commercial COCOMO implementation in 1987. COCOMO II supports the useof either function points or source lines of code. In both cases, this isdone via "backfiring" tables of source lines of code per function point forsource languages at different levels.

Misconception 2. *It is irresponsible to use SLOC as a generalproductivitymetric, but it is not irresponsible to use FP as a general sizingparameter forestimation.* This breaks down into two cases:

2a. Your organization uses different language levels to develop software.In this case, it is irresponsible to use SLOC as a productivity metric, asyou get higher productivity/SLOC at higher language levels. However, it isalso irresponsible to use FP as your general sizing metric for estimation,as pure FP will give you the same cost (or schedule or quality) estimatefor a program with the same functionality developed using differentlanguage levels, which is clearly wrong. To get responsible results inthis case, FP-based estimation models need to use some form of backfiringto account for the difference in language level.

2b. Your organization always uses the same programming language (level).Here, it's responsible to use pure FP as your sizing metric for estimation.But it's also responsible to use SLOC as your productivity metric.

COCOMO II Conferences, Papers, and Presentations

Conferences:

- 14th International Forum on COCOMO -Call for Participation-(October 1999)
- 13th International Forum on COCOMO (October 1998)
- 5th CSE Annual Research Review & Executive Workshop (March 1998)
- 4th CSE Annual Research Review & Executive Workshop (March 1997)

Papers and Presentations:

- "The Rosetta Stone: Making COCOMO 81 Files Work With COCOMO II"
  - Authors: *Donald J. Reifer, Barry W. Boehm, Sunita Chulani*
  - Paper
    - Postscript format (433kb)

- PDF format (57kb)

- "A Bayesian Software Estimating Model Using a Generalized g-Prior Approach"
  - Authors: *Sunita Chulani, Bert Steece*
  - Paper
    - Postscript format (526kb)
    - PDF format (110kb)

- "Calibrating Software Cost Models Using Bayesian Analysis," submitted for the *IEEE Transactions on Software Engineering, Special Issue on Empirical Methods in Software Engineering*, (Fall 1998).
  - Authors: *Sunita Chulani, Barry Boehm, Bert Steece*
  - Paper
    - Postscript format (675kb)
    - PDF format (72kb)

- "Calibration Approach and Results of the COCOMO II Post Architecture Model," International Society of Parametric Analysts, (June1998).
  - Authors: *Sunita Chulani, Brad Clark, Barry Boehm*
  - Paper
    - Postscript format (315kb)
    - PDF format (34kb)
  - Presentation
    - Postscript format (251kb)
    - PDF format (46kb)

- "Calibrating the COCOMO II Post Architecture Model," 20th International Conference on Software Engineering, (April 1998).
  - Authors: *Sunita Chulani, Brad Clark, Barry Boehm*
  - Paper
    - Postscript format (298kb)
    - PDF format (35kb)
  - Presentation
    - Postscript format (748kb)
    - PDF format (114kb)

- "Incorporating Bayesian Analysis to Improve the Accuracy of COCOMO II and Its Quality Model Extension," Sunita Chulani, *Ph.D. QualifyingExam Report, University of Southern California*, (Feb. 1998).
  - Author: *Sunita Chulani*
  - Paper
    - Postscript format (4.74mb)
    - PDF format (1.36mb)
  - Presentation
    - Postscript format (1.05mb)
    - PDF format (108kb)

- "Calibration Results of COCOMO II.1997," 22nd Annual Software Engineering Workshop, *NASA Goddard Space Flight Center*, (Dec. 1997).
  - Authors: *Sunita Chulani, Brad Clark, Barry Boehm*
  - Paper
    - Postscript format (646kb)
    - PDF format (93kb)
  - Presentation
    - Postscript format (239kb)
    - PDF format (42kb)

- "Anchoring the Software Process," Barry Boehm, *IEE Software Magazine*, (July 1996).
    - Author: *Barry Boehm*
        - Postscript format (872kb)
        - PDF format (68kb)
        - HTML format

- "Cost Models for Future Software Life Cycle Processes: COCOMO 2.0," *Annals of Software Engineering*, (1995).*
    - Authors: *Barry Boehm, Bradford Clark, Ellis Horowitz, Ray Madachy, Richard Shelby, Chris Westland*
        - Postscript format (242kb)
        - PDF format (78kb)

**The first published paper detailing COCOMO II.*

- "The COCOMO 2.0 Software Cost Estimation Model," International Society of Parametric Analysts, (May 1995).
    - Authors: *Barry Boehm, Bradford Clark, Ellis Horowitz, Ray Madachy, Richard Shelby, Chris Westland*
        - Postscript format (189kb)
        - PDF format (60kb)

- "An Overview of the COCOMO 2.0 Software Cost Model," Software Technology Conference, (April 1995).
    - Authors: *Barry Boehm, Bradford Clark, Ellis Horowitz, Ray Madachy, Richard Shelby, Chris Westland*
        - Postscript format (179kb)
        - PDF format (55kb)

Product Flyer:

- MS Word '95 doc format (361kb)
- Postscript format (349kb)
- PDF format (141kb)

COCOMO II Status

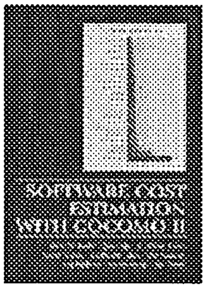
The first USC-CSE implementation of COCOMO II was released to the general public in mid-1997. USC COCOMO II.1997 is calibrated to 83 data points (historical software development projects), using a 10% weighted-average approach (35kb) to blending empirical data with expert opinion to calibrate the model parameters. Over those 83 data points, the '97 release demonstrates an accuracy of within 20% of actuals 46% of the time for effort, and within 20% of actuals 48% of the time for a nonincremental development schedule.

USC COCOMO II.1998.0 *beta* was released in October 1998. The '98 version of the model has been calibrated to 161 data points, this time using a Bayesian statistical approach (119kb) to blending empirical data with expert opinion to calibrate the model. Over those 161 data points, the '98 release demonstrates an accuracy of within 30% of actuals 75% of the time (and within 30% of the actuals 80% of the time after stratification by organization) for effort, and within 30% of actuals 72% of the time (within 30% of the actuals 81% of the time after stratification by organization) for a nonincremental development schedule.

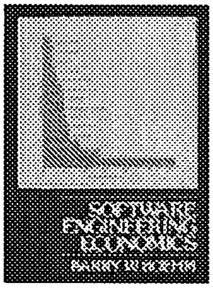
USC COCOMO II.1999.0 was released in mid-1999 and USC COCOMO II.2000.0 has been released in conjunction with the publication of our new COCOMO book in July 2000. While each release of the USC COCOMO II tool has seen improvements in its user friendliness, for logistical reasons related to preparation of materials for our book, the 1998, 1999, and 2000 model calibrations are the same. That is, no new data points have been added to the database used to calibrate the 1999 and 2000 releases of the tool beyond those that appeared in the 1998 calibration database. The same 161 datapoints noted above appear in all three implementations. With publication of the new book achieved, however, our attention is again now focusing on improving the calibration of the tool itself, and it is anticipated that USC COCOMO II.2001.0 will indeed have a new calibration.

Finally, experience has shown that if an organization calibrates the multiplicative constant in COCOMO II to its own empirical data, the accuracy of the model can be greatly improved over the generic calibration results indicated above.

New COCOMO Book



COCOMO II
(2000)



COCOMO 81
(1981)

Once a calibrated version of COCOMO II was finally released to the public, the need to provide a single, concise, authoritative resource documenting the model and explaining the use of the USC COCOMO II software became apparent. To that end, members of the COCOMO research group have authored a book called *Software Cost Estimation With COCOMO II* (Prentice Hall, July 2000) shown above on the left. The book explains the theory behind the model, while keeping a focus on the practical informational needs of the professional software cost estimator.

Rather than as a replacement of *Software Engineering Economics* (Prentice Hall, 1981) shown above on the right, which was Barry Boehm's earlier text detailing the theory and application of COCOMO 81, this new book should be viewed as an updated supplement (in practical terms it supercedes about one third of the material in the original book). For the software professional, it serves quite well as a stand-alone resource, providing all the information needed to effectively apply the USC COCOMO II tool. For the student studying software economics, it complements Boehm's original text, omitting the broaderdiscussions of software project management still valid in the earlier book, while providing insight into the changes in software development practice that have occurred over the past twenty years and which have made the development of COCOMO II necessary.

Both books can be ordered at Amazon.com:

Order: ***Software Cost Estimation with COCOMO II***
Order: ***Software Engineering Economics***

As **errata** for the new book and it's accompanying compact disc are identified, they will be documented here:

Book Errata Enclosed Disc Errata

To **help us improve the next edition** of the COCOMO II book and included software, we would also be most grateful if you would care to **report to userrors** both conceptual and typographic that you discover in the course of using both the text and its included CD:

Report **text errors** to: c2bkerr@sunset.usc.edu
Report **CD and software errors** to: cderr@sunset.usc.edu

Data Collection Program

The key factor in continuing to improve the predictive accuracy of COCOMO II is good data. As is explained in the introduction, annual releases of the tool to the public with ever better parameter calibrations are planned. This is contingent, however, on the continued addition of historical projects to the COCOMO II calibration database. To that end, **we are asking for the help of the software industry in collecting data.** If you or the organization you work for has the ability to supply software development project data, we would like to hear from you. The benefit to you for participating in data collection will be the availability of a more accurate predictive model for estimating your software project costs.

There are two ways in which to participate in the COCOMO II data collection program. The first is by returning to us completed hardcopies of the COCOMO II cost estimation questionnaire. The second, more recent, and simplist method is by returning to us on a floppy disk the saved project files created by you while using the USC COCOMO II software.

We have proven procedures that we have followed successfully for over four years to prevent the compromise of any information entrusted to us that could be considered proprietary by data suppliers. Moreover, we would be glad to discuss any specific accommodations you might need to permit your participation in this data collection effort.

For your convenience, we are providing below for download copies of the COCOMO II data collection instrument, and the standard data nondisclosure agreement USC-CSE enters into with most of our data suppliers. The USC COCOMO II software is available here.

For further information or to discuss participation in the COCOMO II data collection program, **please contact us**.

Data Collection Documents:

- COCOMO II Cost Estimation Questionnaire *Updated October 1998*
- Postscript format (920kb)
- PDF format (155kb)

- USC-CSE Data Nondisclosure Agreement
  - Postscript format (87kb)
  - PDF format (12kb)
  - HTML format

Research Group

IMPORTANT NOTE: If you need feedback regarding some unique matter relative to USC-CSE activities or research or Affiliate business for which you know one of the parties below is the person with whom you should be dealing, then please by all means contact that individual. However, if you have generic questions regarding COCOMO or the software tools available at this site--including problems with ftp and/or downloading--you will receive a faster response by using the appropriate e-mail accounts listed in theFor Further Information section near the bottom of this web page rather than sending identical e-mail requests individually to each member of the research group.Such duplicate requests require us to spend unnecessary effort coordinating and eliminating multiple responses.Thanks for everybody's cooperation along these lines....

- Mr. Chris Abts
- Mr. Keun Lee
- Dr. Jongmoon Baik
- Dr. Barry W. Boehm *(Director, USC Center for Software Engineering)*
- Mr. A. Winsor Brown *(Assistant Director, USC Center for Software Engineering)*
- Dr. Sunita Chulani
- Dr. Brad Clark
- Dr. Ellis Horowitz *(Chairman Emeritus, USC Computer Science Department)*
- Dr. Ray Madachy
- Mr. Don Reifer
- Dr. Bert Steece *(Deputy Dean of Faculty, USC Marshall School of Business)*
- Ms. Ye Yang

Research Sponsors/COCOMO II Affiliates' Program

Primary funding and technical support of the development of COCOMO II has been provided by the members of the COCOMO II Project Affiliates' Program. We would like to take this opportunity to acknowledge the generous assistance of our program members, without whose help the development of COCOMO II would have been impossible.

The COCOMO II Affiliates' Program enables interested organizations to participate in the development and definition of COCOMO II. In return for their financial support and technical assistance, the program provides Affiliates with evolving model definitions, tools for experimentation, and opportunities to provide feedback. The program also provides Affiliates with associated reports, tutorials and model tailoring guidelines, as well as participation in workshops on COCOMO II and related issues. Affiliate members also receive calibrated releases of the USC COCOMO II software well before the public at large.

For your convenience, we are providing for download a copy of the COCOMO II Affiliates' Program Prospectus, which describes the program in detail, and also contains a program membership form. For further information or to discuss participation in the COCOMO II Affiliates' Program, please contact us.

- COCOMO II Affiliates' Program Prospectus *Published Sept. 1995 - update pending*
  - Postscript format (143kb)
  - PDF format (47kb)

Note:

The COCOMO II Affiliates' Program is not to be confused with the more encompassing USC-CSE General Affiliates' Program.

COCOMO Frequently Asked Questions

For answers to the most frequently asked questions about COCOMO go here.

COCOMO II Downloads (Software and Documentation)

All USC COCOMO II software is Y2K compliant.

The various USC software implementations of COCOMO II have been developed by graduate student programming teams under the leadership of Dr. Ellis Horowitz. The tool is available for Unix, Microsoft Windows, and Java-enabled environments. The program files download in compressed format and need to be unzipped with the appropriate utility.

Note: occasionally, some users experience difficulties in downloading software and documentationfrom our website, either directly from this page itself, or from our ftp site. If users experience trouble, usually itmanifests in the form of a "timeout error" while trying to establish a connection to our server. This is a function ofthe way the firewall is implemented on our end, which requests a domain ID which your server is likely not sending or at least our server is not interpreting if you areexperiencing this kind of difficulty. In this event, send a request to cocomo-tool-info@sunset.usc.edudetailing what happened and what files you are trying to download, and we will attempt to send you via e-mail the filesthat you desire.

USC COCOMO II.1999.0 Software (Implementations of Post-architecture and Early Design models):

- SunOS 4.x and 5.x platforms (2.13mb)
- Windows 95/98/Windows NT platforms (3.26mb)*

**This is a self-extracting program that installs USC COCOMO II.1999.0 and Excel Analyzer Tool which imports into Excel 97 a CSV data file exported from COCOMO II.*

1999 Documentation:

- COCOMO II Model Manual *Updated 10/02/1998*
  - Postscript format (1.60mb)
  - PDF format (252kb)

- USC COCOMO II User's Manual *Updated 2/05/1999*
  - Postscript format (4.17mb)
  - PDF format (844kb)

USC COCOMO II.1998.0 Software (Post-architecture implementations only):

This is a beta version.

- SunOS 4.x and 5.x platforms (1.95mb)
- Windows 95/Windows NT platforms (3.84mb)*

**This is a self-extracting program that installs USC COCOMO II.1998.0 and Excel Analyzer Tool which imports into Excel 97 a CSV data file exported from COCOMO II.*

1998 Documentation:

- COCOMO II Model Manual *Updated 10/02/1998*
  - Postscript format (1.60mb)
  - PDF format (515kb)

- USC COCOMO II User's Manual *Updated 10/02/1998*
  - Postscript format (6.27mb)
  - PDF format (5.70mb)

USC COCOMO II.1997.2 Software (Post-architecture implementations only):

The ~97.2 software corrects a bug in the calibration function found in the USC COCOMO II.1997.1 implementation.

- SunOS 4.x and 5.x platforms (1.85mb)
- Windows 95/Windows NT platforms (545kb)
- Java USC COCOMO II.1997.2 (experimental) (530kb)

1997 Documentation:

- COCOMO II Model Manual
  - Postscript format (1.45mb)
  - PDF format (216kb)

- USC COCOMO II Reference Manual
  - Postscript format (1.61mb)
  - PDF format (216kb)

COCOMO II Web-based Software

(Experimental Programs)

COCOMO II Software (Post-architecture implementations only):

- Run Java USC COCOMO II.1997.2*

  *The ~97.2 software corrects a bug in the calibration function found in the USC COCOMO II.1997.1 implementation.

- Run Expert COCOMO II with Risk Assessment*

  **Developed by Dr. Ray Madachy, this is an innovative COCOMO II implementation that uses heuristics to flag potential risks found in specified project development conditions.*

COCOMO II Software Known Problems

For discussions of known bugs in USC COCOMO II software go here.

Commercial COCOMO II Software

USC-CSE makes no claims or certifications regarding the validity of the COCOMO II implementations offered by any of the commercial vendors listed here. These links are provided as a helpful service only. It is up to each individual vendor to demonstrate to its customers' satisfaction the validity of its COCOMO II implementation.

COSTAR
By
Softstar Systems
Amherst, NH

Cost Xpert
By
Cost Xpert Group
San Diego, CA

ESTIMATE Professional
By
Software Productivity Centre
Vancouver, BC, Canada

COCOMO 81

Description:

COCOMO 81 is a model that allows one to estimate the cost, effort, and schedule when planning a new software development activity, according to software development practices that were commonly used in the 1970s through the 1980s. It exists in three forms, each one offering greater detail and accuracy the further along one is in the project planning and design process. Listed by increasing fidelity, these forms are called Basic, Intermediate, and Detailed COCOMO. However, only the Intermediate form has been implemented by USC in a calibrated software tool.

The implemented tool provides cost, effort, and schedule point estimates. It also allows a planner to easily perform "what if" scenario exploration, by quickly demonstrating the effect adjusting requirements, resources, and staffing might have on predicted costs and schedules (e.g., for risk management or job bidding purposes). Over 63 data points in the COCOMO 81 calibration database, the Intermediate form demonstrates an accuracy of within 20% of actuals 68% of the time for effort, and within 20% of actuals 58% of the time for a nonincremental development schedule.

COCOMO 81 has a rich legacy. Originally published by Dr. Barry Boehm in 1981 under the simple name COCOMO, it went on to become (and arguably remains) the most widely used software project cost estimation model throughout the world. It has also existed in other incarnations, the most prominent being Ada COCOMO. After nearly twenty years of solid service, however, it is finally being retired in favor of COCOMO II, which models the way software is built today in the 1990s, and will continue to be built well into the new century.

Reference:

Boehm, Barry W., *Software Engineering Economics,* Prentice Hall, 1981.

Dr. Boehm's 1981 book is still the most complete resource for information regarding original COCOMO, as well as providing a wealth of material that will improve one's understanding and application of COCOMO II.

COCOMO 81 Downloads (Software and Documentation):

All USC COCOMO 81 software is Y2K compliant.

The USC COCOMO 81 implementations were developed by graduate student programming teams under the direction of Dr. Ellis Horowitz. Expert COCOMO 81 was developed by Dr. Ray Madachy. The web-based COCOMO 81 Calculator was developed by Dr. Brad Clark. The program files download in compressed format and need to be unzipped with the appropriate utility.

USC COCOMO 81 Software (Intermediate model only):

- SunOS 4.x with Motif platform (1.47mb)
- Windows 3.1/95/NT platforms (392kb)

Documentation:

- USC COCOMO 81 Reference Manual
  - Postscript format (717kb)
  - PDF format (400kb)

Alternate COCOMO 81 Software (Intermediate model only):

- Expert COCOMO 81 with Risk Assessment*
- Macintosh (Apple Computer, Inc.) platform (265kb)

**This is an innovative COCOMO 81 implementation that uses heuristics to flag potential risks found in specified project development conditions.*

COCOMO 81 Web-based Software (Intermediate model only):

- Run COCOMO 81 Calculator

Related Research

- Software Process Modeling with Systems Dynamics
- Effects of Software Process Maturity on Software Development Effort
- Calibrating Software Cost Models Using Bayesian Analysis (119kb)
- Software Cost/Quality Estimation (77kb)

Cost Estimation Bibliography

For an extensive bibliography of software cost estimation related papers and books go here.

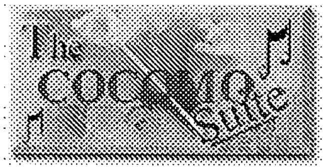
For Further Information Please Contact:

Center for Software Engineering
Salvatori Hall Room 328
University of Southern California
941 W. 37th Place
Los Angeles, CA 90089-0781

Voice: (213) 740-6470
Fax: (213) 740-4927

For questions on the following, send e-mail queries to the indicated accounts:

- *On the theory behind COCOMO II and its calibration, or for feedback on the content or layout of this web page:*
  - cocomo-info@sunset.usc.edu
- *On the USC COCOMO II software, reporting of bugs, and difficulties with downloading/ftp:*
  - cocomo-tool-info@sunset.usc.edu



Beginning with COCOMO itself, The COCOMO Suite is a collection of six COCOMO-related estimation models in various stages of development. These models attempt to estimate impacts on software system cost, development schedule, and even return on technology investment associated with a variety of software development approaches and processes.

Click on the graph to view website visitor statistics:

BACK To the Center for Software Engineering Home Page

repackage the material, text, graphics or software in any form or manner and then claim exclusive proprietary ownership of it as part of a commercial offering of services or as part of a commercially offered product.

PORTAL Subscribe Register Login
(Full Service) (Limited Service, Free)

Search: ● The ACM Digital Library ○ The Guide

dominon point metric and software lifecycle and effort

THE ACM DIGITAL LIBRARY Feedback

Terms used dominon point metric and software lifecycle and effort

Sort results by relevance ▾

Display results expanded form ▾

Save results to a Binder
Search Tips
□ Open results in a new window

Try
Try

Results 1 - 20 of 200
Best 200 shown

Result page: **1** 2 3 4 5 6 7 8 9

1 Pragmatic quality metrics for evolutionary software development models
Walker Royce
December 1990 Proceedings of the conference on TRI-ADA '90
Full text available: pdf(1.72 MB) Additional Information: full citation, abstract

Due to the large number of product, project and people parameters which imp efforts, measurement of software product quality is a complex undertaking. Fu from which quality is measured (customer satisfaction) is intangible. While we quality of a software product is, we can determine the relative quality, the ad pragmatic considerations, and ident ...

2 Software metrics: roadmap
Norman E. Fenton, Martin Neil
May 2000 Proceedings of the conference on The future of Software engineerin
Full text available: pdf(1.25 MB) Additional Information: full citation, references, citings, ind

Keywords: Bayesian belief nets, casual models, multi-criteria decision aid, risl

3 Papers: Estimating software projects

July 2001 ACM SIGSOFT Software Engineering Notes, Volume 26 Issue 4

Full text available: pdf(1.18 MB) Additional Information: full citation, abstract, references, in

Software Cost Estimation (SCE) continues to be a weak link in software projec
the project manager to make accurate estimations of effort and cost. This is p
competitive bidding where a bid too high compared with competitors would re
low could result in a loss to the organization. From an estimate, the managem
with the project. Industry has ...

Keywords: Estimation, risk, software engineering, software project

4 Workshop on software engineering decision support: processes: Software
process tradeoffs using a hybrid metrics, modeling and utility framework

David M. Raffo, Warren Harrison, Joseph Vandeville

July 2002 Proceedings of the 14th international conference on Software engineer

Full text available: pdf(63.59 KB) Additional Information: full citation, abstract, reference

In this paper, we present a "forward-looking" decision support framework that
simulation models of the software development process in order to support th
function. This forward-looking approach provides predictions of project perforr
management decisions. Tradeoffs among performance measures are accompli
Limits (OBCLs) and are augmented using multi-criteria util ...

Keywords: multi-criteria decision making, project management, simulation, sc
software process modeling

5 Software engineering #2: Computing software metrics from design docume

Cara Stein, Letha Etzkorn, Dawn Utley

April 2004 Proceedings of the 42nd annual Southeast regional conference

Full text available: pdf(232.65 KB) Additional Information: full citation, abstract, referenc

Software metrics can provide an automated way for software practitioners to a
earlier in the software development lifecycle this information is available, the
much more expensive to make later in the lifecycle.Semantic metrics, introdu
software according to the meaning of the software's functionality in its domair
metrics, which use syntax measures ...

Keywords: design, design document, object-oriented software, semantic metri

6 **Software performance engineering a digital signal processing application**
David P. Kelly, Robert S. Oshana
October 1998 Proceedings of the first international workshop on Software and perl
Full text available: pdf(889.43 KB) Additional Information: full citation, references, index terms

7 **Analytical and empirical evaluation of software reuse metrics**
Prem Devanbu, Sakke Karstu, Walcélio Melo, William Thomas
May 1996 Proceedings of the 18th international conference on Software engir
Full text available: pdf(1.39 MB) Publisher Site Additional Information: full citation, abstrac

How much can be saved by using existing software components when develop
increasing adoption of reuse methods and technologies, this question become:
actual cost savings due to reuse is difficult. A worthy goal would be to develop
indirectly by analyzing the code for reuse of components. The focus of the pap
published software reuse metrics measure the "t ...

Keywords: analytical evaluation, cost savings, empirical evaluation, human re
productivity data, quality data, savings measurement, software components, s
metrics, software reusability, software reuse metrics, software system develo
toolset

8 **An empirical methodology for introducing software processes**
Forrest Shull, Jeffrey Carver, Guilherme H. Travassos
September 2001 ACM SIGSOFT Software Engineering Notes , Proceedings of the 8t
conference held jointly with 9th ACM SIGSOFT international symp
engineering, Volume 26 Issue 5
Full text available: pdf(188.10 KB) Additional Information: full citation, abstract, references,

There is a growing interest in empirical study in software engineering, both fo
guiding improvements of less-mature technologies. This paper introduces an e
experiences garnered over more than two decades of work by the Empirical S
University of Maryland and related organizations, for taking a newly proposed
from the conceptual phase through transfer to indus ...

Keywords: OO design inspections, empirical studies, experimental process, so

9 **Software reuse: metrics and models**
William Frakes, Carol Terry
June 1996 ACM Computing Surveys (CSUR), Volume 28 Issue 2
Full text available: pdf(590.73 KB) Additional Information: full citation, abstract, references, :

As organizations implement systematic software reuse programs to improve p
able to measure their progress and identify the most effective reuse strategie:
models. In this article we survey metrics and models of software reuse and re
structure that will help users select them. Six types of metrics and models are
maturity assessment models, amount of ...

Keywords: cost-benefit analysis, definitions, economics, maturity assessment,
quality, reusability, reusability assessment, reuse, reuse level, reuse library m
modes model

10 **Product metrics for object-oriented systems**
Sandeep Purao, Vijay Vaishnavi
June 2003 ACM Computing Surveys (CSUR), Volume 35 Issue 2
Full text available: pdf(363.99 KB) Additional Information: full citation, abstract, referen

We survey metrics proposed for object-oriented systems, focusing on product
purposes of understanding, classifying, and analyzing ongoing research in obj
fundamental measurement theory to artifacts created by development activiti
formalism that captures this perspective clearly, giving appropriate attention t
system developmenr process. Consistent ...

Keywords: Software metrics, measurement theory, object-oriented metrics, ol
object-oriented systems

11 **How reuse influences productivity in object-oriented systems**
Victor R. Basili, Lionel C. Briand, Walcélio L. Melo
October 1996 Communications of the ACM, Volume 39 Issue 10
Full text available: pdf(292.84 KB) Additional Information: full citation, references, citings, index terms

12 **Recent advances in software estimation techniques**
Richard E. Fairley
June 1992 Proceedings of the 14th international conference on Software engineer
Full text available: pdf(919.06 KB) Additional Information: full citation, references, index terms

13 Predicting software quality for reuse certification
William M. Thomas, Deborah A. Cerino
November 1995 Proceedings of the conference on TRI-Ada '95: Ada's role in global
complex world
Full text available: pdf(1.35 MB) Additional Information: full citation, refe

14 Processes and metrics for object-oriented software development
Steven C. Bilow, Doug Lea, Karl Freburger, Dennis de Champeaux
April 1993 ACM SIGPLAN OOPS Messenger , Addendum to the proceedings on Obj
languages, and applications (Addendum), Volume 5 Issue 2
Full text available: pdf(592.21 KB) Additional Information: full citation, in

15 Software economics: a roadmap
Barry W. Boehm, Kevin J. Sullivan
May 2000 Proceedings of the conference on The future of Software engineering
Full text available: pdf(2.58 MB) Additional Information: full citation, references, citings, index terms

16 Computing curricula 2001
September 2001 Journal on Educational Resources in Computing (JERIC)
Full text available: pdf(613.63 KB) html(2.78 KB) Additional Information: full citation, references, citings, in

17 Book review: Object-Oriented Software Metrics by Mark Lorenz and Jeff Ki
John A. Kostecki
January 1995 ACM SIGSOFT Software Engineering Notes, Volume 20 Issue 1
Full text available: pdf(298.44 KB) Additional Information: full citation

18 Software process improvement experience in the DP/MIS function: experie
Albert Johnson
May 1994 Proceedings of the 16th international conference on Software enginee
Full text available: pdf(712.77 KB) Additional Information: full citation, references, citings

19 Fast detection of communication patterns in distributed executions
Thomas Kunz, Michiel F. H. Seuren
November 1997 Proceedings of the 1997 conference of the Centre for Advanced S
Full text available: pdf(4.21 MB) Additional Information: full citation, abstract, references

Understanding distributed applications is a tedious and difficult task. Visualiza are often used to obtain a better understanding of the execution of the applicɛ Poet, an event tracer developed at the University of Waterloo. However, these do not provide the user with the desired overview of the application. In our ex occurrences of non-trivial commun ...

20 Software development productivity tools and metrics
A. S. Duncan
April 1988 Proceedings of the 10th international conference on Software engir
Full text available: pdf(757.50 KB) Additional Information: full citation, abstract, references,

The continuing emphasis on improving productivity in the building of software software quality and software engineer productivity, and a greater interest by alike in the tools and measurements that aid in knowing a project is &ldquo;ir the software development process used within one software engineering grou| the meth ...

Results 1 - 20 of 200 Result page: **1** 2 3 4 5 6 7

The ACM Portal is published by the Association for Computing Machinery. C

Terms of Usage Privacy Policy Code of Ethics Cont

Useful downloads: Adobe Acrobat QuickTime Windows Medi

PORTAL Subscribe (Full Service) Register (Limited Service, Free) Login

Search: ● The ACM Digital Library ○ The Guide

dominon points <and> internet points <and> COCOMO

THE ACM DIGITAL LIBRARY Feedback

Terms used dominon points and internet points and COCOMO

Sort results by relevance ▾ Save results to a Binder Try

Search Tips Try

Display results expanded form ▾ □ Open results in a new window

Results 1 - 20 of 200 Result page: **1** 2 3 4 5 6 7 8 9

Best 200 shown

1 Developing an activity-based costing approach for system development an

Ginny Ooi, Christina Soh

August 2003 ACM SIGMIS Database, Volume 34 Issue 3

Full text available: pdf(357.44 KB) Additional Information: full citation, abstract, referenc

This paper proposes the use of the Activity Based Costing (ABC) approach to s traditional approaches to software estimation, ABC provides man-day estimat costing information that is useful for management control and decision makin approach can be applied to software estimation by building an ABC model usi financial services firm. The model is then used f ...

Keywords: IS project planning, activity-based costing, effort estimation, orgar measurement, time and cost estimation

2 Technical papers: empirical studies II: Cost estimation for web applications

Melanie Ruhe, Ross Jeffery, Isabella Wieczorek

May 2003 Proceedings of the 25th international conference on Software engin

Full text available: pdf(1.19 MB) Publisher Site Additional Information: full cita

In this paper, we investigate the application of the COBRA&trade; method (Co Assessment) in a new application domain, the area of web development. COB data on a small number of projects to develop cost estimation models, which benchmarking purposes. We modified and applied the method to the web appl specializing in web development. In this paper we p ...

3 Software economics: a roadmap
Barry W. Boehm, Kevin J. Sullivan
May 2000 Proceedings of the conference on The future of Software engineering
Full text available: pdf(2.58 MB) Additional Information: full citation, references, citings, index terms

4 SIGda '96, workshop: how do we expedite the commercial use of Ada?
Robert C. Leif
March 1999 ACM SIGAda Ada Letters, Volume XIX Issue 1
Full text available: pdf(858.93 KB) Additional Information: full citation, citings, index terms

5 Session 7A: Software engineering II: An adaptation of function point analys
cost of Oracle SQL*forms application development
Y. Renee Lewis, Paul Oliver
April 1992 Proceedings of the 30th annual Southeast regional conference
Full text available: pdf(258.37 KB) Additional Information: full citation, abstract,

The most difficult task in software development planning is to estimate the si
will be required, and the time required to complete the project. Function Point
projecting size, while the Constructive Cost Model (COCOMO) is a method of e
tools were developed primarily from experience with third generation languag
Provisions for interchanging the tools to est ...

6 Agile software process and its experience
Mikio Aoyama
April 1998 Proceedings of the 20th international conference on Software engineer
Full text available: pdf(1.16 MB) Publisher Site Additional Information: full citation, references, index term

7 Tomography: On the number of distributed measurement points for networl
Joseph D. Horton, Alejandro López-Ortiz
October 2003 Proceedings of the 2003 ACM SIGCOMM conference on Internet
Full text available: pdf(169.14 KB) Additional Information: full citation, abstract, referen

Internet topology information is only made available in aggregate form by sta
information and latency characteristics must therefore be inferred using indire
measurements using a distributed set of measurement points or beacons. We
number of required beacons on a network under a BGP-like routing policy is N
n)-approximable. In the worst case at least (n-1)/3 a ...

Keywords: NP-hard, approximation algorithms, internet tomography, network
networks, topology discovery

8 The STRESS method for boundary-point performance analysis of end-to-ei mechanisms

Ahmed Helmy, Sandeep Gupta, Deborah Estrin

February 2004 IEEE/ACM Transactions on Networking (TON), Volume 12 Is:

Full text available: pdf(477.08 KB) Additional Information: full citation, abstract, referenc

The advent of multicast and the growth and complexity of the Internet has co evaluation. Evaluation of Internet protocols usually uses random scenarios or Such approach may be useful for average case analysis but does not cover *bo* scenarios. To synthesize boundary-point scenarios, a more systematic approa method for automatic synthesis of w ...

9 Front matter (letters and notices)

March 2003 ACM SIGSOFT Software Engineering Notes, Volume 28 Issue 2

Full text available: pdf(346.94 KB) Additional Information: full citation

10 Evolutionary design of complex software (EDCS) demonstration days 1999

Wayne Stidolph

January 2000 ACM SIGSOFT Software Engineering Notes, Volume 25 Issue

Full text available: pdf(1.90 MB) Additional Information: full citation, abstract, in

This report summarizes the Product/Technology demonstrations given at Defe (DARPA) Evolutionary Design of Complex Software (EDCS) Program Demonstr Sheraton National Hotel, Arlington, VA.

11 Internet-based information management technology

Gail E. Kaiser

January 2000 ACM SIGSOFT Software Engineering Notes, Volume 25 Issue 1

Full text available: pdf(278.99 KB) Additional Information: full citation, index terms

12 Evolution of Contact Point: a case study of a help desk and its users

Lena Mamykina, Catherine G. Wolf

December 2000 Proceedings of the 2000 ACM conference on Computer support

Full text available: pdf(226.62 KB) Additional Information: full citation, abstract, referen

This paper describes the evolution of a concept, Contact Point, the research p work context and practices which drove its evolution. Contact Point is a web-b manage its relationships with its customers. It can also be used within a busir relationship between parts of the business. In this paper we describe a study the technical services organi ...

Keywords: case study, design process, help desk, user needs, user-centered d

13 Web engineering: Do adaptation rules improve web cost estimation?

Emilia Mendes, Nile Mosley, Steve Counsell
August 2003 Proceedings of the fourteenth ACM conference on Hypertext and
Full text available: pdf(295.57 KB) Additional Information: full citation, abstract, referen

Analogy-based estimation has, over the last 15 years, and particularly over th
approach with comparable accuracy to, or better than, algorithmic methods in
potentially easier to understand and apply; these two important factors can cc
estimation methods within Web development companies. We believe therefore
examined further.This paper compares several m ...

Keywords: case-based reasoning, prediction models, web effort prediction, we

14 Rethinking the design of the Internet: the end-to-end arguments vs. the bra

Marjory S. Blumenthal, David D. Clark
August 2001 ACM Transactions on Internet Technology (TOIT), Volume 1 Is
Full text available: pdf(176.33 KB) Additional Information: full citation, abstract, references,

This article looks at the Internet and the changing set of requirements for the
commercial, more oriented toward the consumer, and used for a wider set of
that have guided the design of the Internet, called the end-to-end arguments,
that the range of new requirements now emerging could have the consequenc
original design principles. Were ...

Keywords: ISP, Internet, end-to-end argument

15 Fifth California software symposium

Pankaj K. Garg, Sriram Sankar
January 1996 ACM SIGSOFT Software Engineering Notes, Volume 21 Issue
Full text available: pdf(363.00 KB) Additional Information: full citation,

The California Software Symposium (CSS), which was held this year on March
Irvine, is the fifth in a series of symposia held annually in southern California.
Software Symposium, and was organized by the University of California, Irvin
co-organized by University of California, Irvine; and University of Southern Ca
change). The symposium will be located a ...

16 Addressing reality: an architectural response to real-world demands on the

David D. Clark, Karen Sollins, John Wroclawski, Ted Faber

August 2003 ACM SIGCOMM Computer Communication Review , Proceedings of th
directions in network architecture, Volume 33 Issue 4

Full text available: pdf(361.27 KB) Additional Information: full citation, abstract, references,

A system as complex as the Internet can only be designed effectively if it is b
or tenets, that identify points in the architecture where there must be commo
tenets of the original Internet architecture [6] arose as a response to the tech
environment of internetworking's earliest days, but have remained central to t
the increasing integration of the ...

Keywords: Architectural principles, application support, architecture design, d
tussle

17 Retransmission schemes for streaming internet multimedia: evaluation mo

Dmitri Loguinov, Hayder Radha

April 2002 ACM SIGCOMM Computer Communication Review, Volume 32 Iss

Full text available: pdf(1.49 MB) Additional Information: full citation, abstract, reference

This paper presents a trace-driven simulation study of two classes of retransm
context of real-time streaming over the Internet. We explore the viability of e
NACK-based (i.e., rate-based) streaming applications to support multiple retra
first part of our simulation is based on trace data collected during a number o
dialup clients in all 50 states in ...

18 Internet routing instability

Craig Labovitz, G. Robert Malan, Farnam Jahanian

October 1997 ACM SIGCOMM Computer Communication Review , Proceedings of t
Applications, technologies, architectures, and protocols for compute

Full text available: pdf(1.95 MB) Additional Information: full citation, abstract, references, ci

This paper examines the network inter-domain routing information exchanged
the major U.S. public Internet exchange points. Internet routing instability, or
reachability information, is an important problem currently facing the Internet
network instability can lead to packet loss, increased network latency and tim
levels of routing instability have lea ...

19 Internet routing instability

Craig Labovitz, G. Robert Malan, Farnam Jahanian

October 1998 IEEE/ACM Transactions on Networking (TON), Volume 6 Issue

Full text available: pdf(277.43 KB) Additional Information: full citation, references, citings

Keywords: communication system, communication system routing, computer

20 Transaction papers: Internet pricing with a game theoretical approach: con

Xi-Ren Cao, Hong-Xia Shen, Rodolfo Milito, Patrica Wirth

April 2002 IEEE/ACM Transactions on Networking (TON), Volume 10 Issue 2

Full text available: pdf(368.75 KB) Additional Information: full citation, abstract, references,

The basic concepts of three branches of game theory, leader-follower, coopera games, are reviewed and applied to the study of the Internet pricing issue. In cooperative game (also called the bargaining problem) provides an overall pic for Internet quality of service (QoS), we demonstrate that the leader-follower Pareto optimal and in some cases may be " ...

Keywords: Paris metro pricing, bargaining problems, cooperative games, lead two-person nonzero sum games

Results 1 - 20 of 200 Result page: **1** 2 3 4 5 6 7